

### **ABSTRACT**

Modified contoured crushable structural members and methods for making the same are described. The contoured structural members comprise composite or metal materials sandwiching a support or stabilizing structure. The structural members are made crushable by incorporating an initiator into the structural members. The structural member crushes at the location of the initiator by absorbing the energy of an exerting load. The modified structure is provided by attaching additional structural components or elements to the end or outside of the structural member or by modifying the shape of the structural member. With a modified, contoured, crushable, and generally non-flat structure, applications and uses for the structural members of the present invention are nearly limitless.